

**What Is Claimed:**

- 1           1.       A crystalline silicoaluminophosphate molecular sieve comprising a  
2       porous framework structure and a catalytically active integrated hydrocarbon co-  
3       catalyst,  
4           wherein the silicoaluminophosphate has a catalytic activity index for  
5       methanol conversion at 250°C of at least 2.
- 1           2.       The crystalline silicoaluminophosphate molecular sieve of claim 1,  
2       wherein the silicoaluminophosphate has a catalytic activity index for methanol  
3       conversion at 250°C of at least 10.
- 1           3.       The crystalline silicoaluminophosphate molecular sieve of claim 1,  
2       wherein the catalytically active integrated hydrocarbon co-catalyst is a product of  
3       a reaction of any hydrocarbon having a diameter less than a pore-mouth diameter  
4       of the crystalline silicoaluminophosphate molecular sieve in contact with the  
5       porous framework structure.
- 1           4.       The crystalline silicoaluminophosphate molecular sieve of claim 1,  
2       wherein the catalytically active integrated hydrocarbon co-catalyst comprises 0.1  
3       to 23 weight percent single ring aromatics.
- 1           5.       The crystalline silicoaluminophosphate molecular sieve of claim 3,  
2       wherein the hydrocarbon comprises an oxygenate.
- 1           6.       The crystalline silicoaluminophosphate molecular sieve of claim 1,  
2       wherein the catalytically active integrated hydrocarbon co-catalyst remains active  
3       even after being exposed to air at room temperature for 12 hours or after being  
4       subjected to heating at 450°C for 0.5 hour.
- 1           7.       The crystalline silicoaluminophosphate molecular sieve of claim 1,  
2       wherein the silicoaluminophosphate molecular sieve is selected from the group  
3       consisting of SAPO-5, SAPO-8, SAPO-11, SAPO-16, SAPO-17, SAPO-18,  
4       SAPO-20, SAPO-31, SAPO-34, SAPO-35, SAPO-36, SAPO-37, SAPO-40,

1            15.     The catalyst of claim 9, wherein the silicoaluminophosphate  
2     molecular sieve is selected from the group consisting of SAPO-5, SAPO-8,  
3     SAPO-11, SAPO-16, SAPO-17, SAPO-18, SAPO-20, SAPO-31, SAPO-34,

$$D_{\text{eff}} = D_0 \left( 1 + \frac{1}{2} \frac{D_0}{\lambda} \right)$$

4 SAPO-35, SAPO-36, SAPO-37, SAPO-40, SAPO-41, SAPO-42, SAPO-44,  
5 SAPO-47, SAPO-56, the metal containing forms thereof, and mixtures thereof.

1 16. The catalyst of claim 15, wherein the silicoaluminophosphate  
2 molecular sieve is SAPO-34.

17. A method of making an olefin product from an oxygenate  
2 feedstock, comprising:  
3 contacting a silicoaluminophosphate molecular sieve having a porous  
4 framework structure with a hydrocarbon at conditions effective to form at least a  
5 integrated hydrocarbon co-catalyst within the porous framework, and  
6 contacting the silicoaluminophosphate molecular sieve containing the  
7 integrated hydrocarbon co-catalyst with an oxygenate feedstock under conditions  
8 effective to convert the feedstock to the olefin product,  
9 wherein the silicoaluminophosphate has a catalytic activity index for  
10 methanol conversion at 250°C of at least 2.

1 18. The method of claim 17, wherein the silicoaluminophosphate has a  
2 catalytic activity index for methanol conversion at 250°C of at least 10.

1 19. The method of claim 17, wherein the catalytically active integrated  
2 hydrocarbon co-catalyst is a product of a reaction of any hydrocarbon having a  
3 diameter less than a pore-mouth diameter of the crystalline  
4 silicoaluminophosphate molecular sieve in contact with the porous framework  
5 structure.

1 20. The method of claim 17, wherein the catalytically active integrated  
2 hydrocarbon co-catalyst comprises 0.1 to 23 weight percent single ring aromatics.

1 21. The method of claim 19, wherein the hydrocarbon comprises an  
2 oxygenate.

1 22. The method of claim 17, wherein the catalytically active integrated  
2 hydrocarbon co-catalyst is remains active even after being exposed to air at room  
3 temperature for 12 hours or after being subjected to heating at 450°C for 0.5 hour.

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1           31. A crystalline silicoaluminophosphate molecular sieve comprising a  
2 porous framework structure and a catalytically active integrated hydrocarbon co-  
3 catalyst,  
4 wherein the catalytically active integrated hydrocarbon co-catalyst is a  
5 product of a reaction of a hydrocarbon in contact with the porous framework.

1           32. The crystalline silicoaluminophosphate molecular sieve of claim  
2 31, wherein the hydrocarbon comprises an oxygenate.

1           33. The crystalline silicoaluminophosphate molecular sieve of claim  
2 31, wherein the catalytically active integrated hydrocarbon co-catalyst comprises  
3 0.1 to 23 weight percent single ring aromatics.

1           34. The crystalline silicoaluminophosphate molecular sieve of claim  
2 31, wherein the catalytically active integrated hydrocarbon co-catalyst is remains  
3 active even after being exposed to air at room temperature for 12 hours or after  
4 being subjected to heating at 450°C for 0.5 hour.

1           35. The crystalline silicoaluminophosphate molecular sieve of claim  
2 31, wherein the silicoaluminophosphate molecular sieve is selected from the  
3 group consisting of SAPO-5, SAPO-8, SAPO-11, SAPO-16, SAPO-17, SAPO-18,  
4 SAPO-20, SAPO-31, SAPO-34, SAPO-35, SAPO-36, SAPO-37, SAPO-40,  
5 SAPO-41, SAPO-42, SAPO-44, SAPO-47, SAPO-56, the metal containing forms  
6 thereof, and mixtures thereof.

1           36. The crystalline silicoaluminophosphate molecular sieve of claim  
2 35, wherein the silicoaluminophosphate molecular sieve is SAPO-34.

1           37. A method of making an integrated hydrocarbon co-catalyst,  
2 comprising:  
3 preparing an silicoaluminophosphate molecular sieve having a porous  
4 framework structure and

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5 contacting said silicoaluminophosphate with a hydrocarbon at conditions  
6 effective to form at least said integrated hydrocarbon co-catalyst within the porous  
7 framework,

8 wherein said the silicoaluminophosphate comprising said integrated  
9 hydrocarbon co-catalyst has a catalytic activity index for methanol conversion at  
10 250°C of at least 2.

1 38. The method of claim 37, wherein said conditions effective to form  
2 at least said integrated hydrocarbon co-catalyst comprises contacting a  
3 hydrocarbon having a diameter less than a pore-mouth diameter of the crystalline  
4 silicoaluminophosphate molecular sieve.

1 39. The method of claim 38, wherein said contacting comprises first  
2 contacting at a lower temperature and second contacting at a higher temperature.

1 40. The method of claims 39, wherein a difference between said higher  
2 temperature and said lower temperature is at least 10°C.

1 41. The method of claims 39, wherein a difference between said higher  
2 temperature and said lower temperature is at least 25°C.

1 42. The method of claims 39, wherein the hydrocarbon contacted in  
2 said first contacting is different from that contacted in said second contacting.

1 43. The method of claims 42, wherein a difference between said higher  
2 temperature and said lower temperature is at least 10°C.

1 44. The method of claims 42, wherein a difference between said higher  
2 temperature and said lower temperature is at least 25°C.

1 45. The method of claim 37, wherein the silicoaluminophosphate has a  
2 catalytic activity index for methanol conversion at 250°C of at least 10.

1 46. The method of claim 37, wherein the catalytically active integrated  
2 hydrocarbon co-catalyst comprises 0.1 to 23 weight percent single ring aromatics.

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1            50.    The catalyst of claim 49, wherein the silicoaluminophosphate  
2    molecular sieve is SAPO-34.